

# **Simulating the Tone River Eastward Diversion Project in Japan Carried Out Four Centuries Ago**

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## **Supplementary Text 1.**

### **Historical and geographical background 1: Edo period**

The Edo Period of Japan was from 1603 to 1867. Society was ruled by a well-organized “Soldier Class” that created a relatively peaceful and ordered environment that enhanced creative thinking (Takahashi, 2011). The population of Japan grew over this period, reaching 30 million at the end of the 17<sup>th</sup> century (O’Neill, 2022). To the beginning of the 18<sup>th</sup> century, restrictions were imposed on the exchange of knowledge and goods between Japan and foreign countries. Hence, the life of people in Edo was supported by only human and livestock power (the inhabitants had no exposure to the industrial technologies based on natural science that flourished in Western society at this time). Water navigation played a substantial role in terms of material and energy transport within the Japanese archipelago.

## **Supplementary Text 2.**

### **Historical and geographical background 2: The capital Edo**

The capital in the Edo period was located in Edo, the Tokyo of today. Edo lies on the central southern edge of the Kanto Plain, a vast floodplain with many rivers. Edo was likely the most populated city worldwide at the beginning of the 17<sup>th</sup> century, with an estimated 1 million people (Ishikawa and Akoh, 2019). The waterworks technology in Europe at that time was more technologically advanced, but Edo had the largest water supply system in terms of the population served (Kosuge, 1981). The water-consuming rice culture stimulated the development of irrigation and draining techniques, and riverboats were widely used to transport goods and supplies. Furthermore, people gathered along the Tone River and its tributaries, in

river ports located on the river banks, for the purpose of exchanging goods, supplies, food and enjoying traditional festivals.

## References

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